

Determination of Public Land (Rangeland) Health for 64077 BRADY

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Brady allotment #64077 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard will not be addressed.

/s/ T. R. KREAGER

Assistant Field Manager

09/20/2004

Date

Standards of Public Land Health

Evaluation of 64077 BRADY Allotment

[08/13/2004]

The Roswell Field Office conducted rangeland health assessments at one study site within the Brady Allotment #64077. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64077-IDSU-A166	X			X			N/A		

Twenty-two (22) indicators for Rangeland health were evaluated for the public land on the Brady allotment #64077. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on one location were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) category due to the small amount of public land present.

The non-permanent study location was last inventoried in 1991. Although this site is mapped as SD-3 Loamy, it possesses more of a gravelly influence due to elevational variation, topography and landform. The acreage is 640 acres/291 hectares on a Reakor soil series which formed in alluvium on uplands and valleys fans. This site is more upland with slopes 0-5% and may be situated in a transition zone between loamy and shallow. The depressional areas or swales do exhibit more loamy characteristics though while the shallower upland is more indicative of a gravelly loam with shallow characteristics.

The majority of indicators rated in the Slight to Moderate range. Bareground, functional/structural groups, litter amount, annual production and invasive plants rate Moderate. Bareground is now estimated at 50 percent with the rest of ground cover made up of gravel, small cobble and vegetation. This suggests an obvious influence from a gravelly site. Functional/structural groups were modified from that expected with tobosa (*Pleuraphis mutica*) and blue grama (*Bouteloua gracilis*) in the bottoms and burrograss (*Scleropogon brevifolius*) on the upland. *Tridens* (*Tridens* spp.) is also in abundance. Black grama (*Bouteloua eriopoda*) is missing however and creosote (*Larrea tridentata*) is slowly encroaching from the top. Catclaw mimosa (*Acacia mimosa*) also is in abundance and is flowering. Litter amount was estimated at 10% with only the under the canopy soil

samples possessing most of the organic matter and some biological crusts. The interspace samples were almost void of litter except for the occasional twig or branch broken from a shrub. A mulch layer is missing but this is no doubt drought influenced. Infiltration rates and water holding capacity remain adequate due to the gravelly cover which is possibly retaining most of the moisture. Annual production is currently estimated at 400 lbs/ac or kg/ha. Most of the production however lies in the swale bottoms where more water has settled. The recent rains account for this growth on the bottom. Invasive plants are primarily creosote, snakeweed (*Gutierrezia sarothrae*) and Russian thistle (*Salsola iberica*) which are scattered throughout. Most all of the vegetation is producing seed head, stolon/rhizomes with the current reproductivity only slightly limited at best. All other indicators rate None to Slight.

Wildlife/Biotic - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic factors are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description such as functional/structural groups as discussed above. Two biotic indicators fell within the Moderate rating of the worksheet. These are litter amount and annual production. This is to be expected given the past climatic conditions and will improve with continued precipitation. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. Wildlife habitat and Population indicators rate slight to moderate, primarily for pronghorn (*Antilocapra americana*) and a variety of non-game terrestrial species. The composition of vegetation reflects current climatic conditions (drought). Range site production and cover of a variety of preferred plant species for wildlife such as forbs and woody browse species and the availability of seed for food and regeneration, is moderated by climatic and land use. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators therefore rate None to Slight.

Hydrology - Pasture IDSU - The bare ground indicator rated as moderate. The amount of bare ground has possibly increased due to recent dry conditions and also wind and water erosion processes. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits, Quaternary alluvial deposits, and Quaternary terrace gravel deposits outcrop in the area.

It is the professional opinion of the Assessment Team that the public land within the Brady allotment meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for further information regarding this assessment.

Recommendations: It is highly recommended that this ecological site be monitored on a more frequent basis. The health of this site and the surrounding area is indicative of prudent livestock management and current climatic conditions. As per conversation with the allottee, most of the livestock have been removed from the allotment and non-use has been taken. Frequent rainfall events are giving this allotment ample opportunities to recover from the dry conditions and an evaluation of the area is recommended to determine how much it has rebounded. The area is prime habitat for pronghorn (*Antilocapra americana*), muledeer (*Odocoileus hemionus*) lagomorph species and other forms of wildlife.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 64077-IDSU-A166						
Legal Land Desc	SWNE 22 0140S 0240E Meridian 23		Acreage		640	
Ecosite	042CY025NM SHALLOW SD-3		Photo Taken		Y	
Watershed	13060009040 FELIX					
Observers	NAVARRO/MCGEE		Observation Date		08/13/2004	
County Soil Survey	NM666 CHAVES SOUTH		Soil Var/Taxad			
Soil Map Unit	RF		Soil Taxon Name		REAKOR	
Texture Class	NM666 L		Soil Phase		REAKOR	
Texture Modifier	NM666 LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	9.74		NOAA Growing Season Precipitation		7.26	
NOAA Avg Annual Precipitation	11.46		NOAA Avg Growing Season Precipitation		9.16	
Disturbances and Animal Use:	Pronghorn and lagomorph species use this area quite a bit. No livestock are in this pasture at the moment.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extrem e	Moderat e to Extreme	Moderat e	Slight to Moderat e	None to Slight
S H	Rills					X
Comments :	Gravel cover may be inhibiting this.					
S H	Water Flow Patterns				X	
Comments :						
S H	Pedestals and/or Terracettes				X	
Comments :	In flow paths on tobosa but only occasionally.					
S H	Bare Ground			X		

Comments :	Now at 50%.					
S H	Gullies				X	
Comments :	Some formation but not a problem.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments :	Bare patches are seen throughout the area.					
H	Litter Movement				X	
Comments :	Some displacement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments :	Slight reduction throughout the site. Canopy is holding together better than the interspace sample.					
S H B	Soil Surface Loss or Degradation				X	
Comments :	Some gravel and pebble deposited on top.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments :						
S H B	Compaction Layer					X
Comments :	Not restrictive.					
B	Functional/Structural Groups			X		
Comments :	Absence of grammas and dropseeds. This area does have shrubs as a major component.					
B	Plant Mortality/Decadence					X
Comments :						
H B	Litter Amount			X		
Comments :	Estimations are now at 10%.					
B	Annual Production			X		

Comments :	There is about 400lbs/ac or kg/ha. ESD calls for 925 lbs/kg but this may be totally representative.					
B	Invasive Plants			X		
Comments :	Cholla, prickly pear and creosote are scattered.					
B	Reproductive Capability of Perennial Plants					X
Comments :						
S	Physical/Chemical/Biological Crusts				X	
Comments :	Physical and occasional biological crusts holding the soil in place.					
B	Wildlife Habitat				X	
Comments :						
B	Wildlife Populations				X	
Comments :						
B	Special Status Species Habitat					X
Comments :	None known to occur.					
B	Special Status Species Populations					X
Comments :	None known to occur.					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	7	2
H	Hydrologic	0	0	2	7	2
B	Biotic	0	0	4	4	5

<p>B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i>, and Slight to Moderate and None to Slight merge to form the <i>Meets</i> columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.</p>				
Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Most soil attributes fall within the normal range of variability. A majority only have slight deviations.	0	1	9
Hydrologic	The only issue here is the frequency of bare patches denuded of vegetation. This is to be expected with dry conditions.	0	2	9
Biotic	As with most sites, drought has impacted the grass and forb component. Perennial species will be impacted but likely can recover with adequate conditions.	0	4	9
<p>Site Notes: No livestock were observed at time of assessment. The allottee has removed most of his herd and only has a small number of livestock at the present time. The recent rains have helped the area recover from the drought somewhat. This is a non-permanent study location that was last read in 1991. Photographs were taken and the area was GPS'd. This site is located just north of highway 13 and off the private drive leading to the headquarters. This site has more of a gravelly influence.</p>				

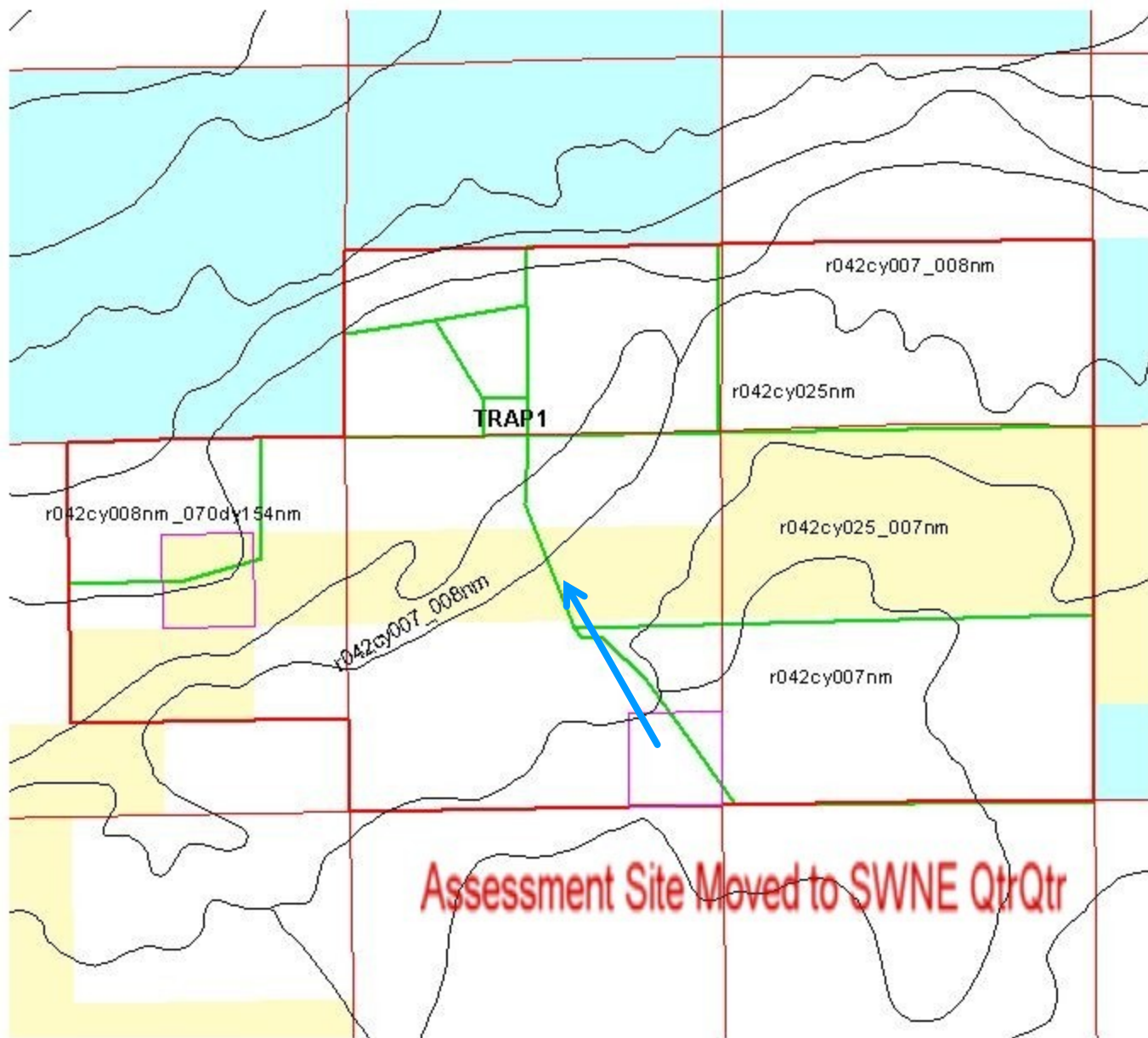


Rangeland Health Assessment Ecological Sites



Allotment 64077

T14.R24E



T14S.R24E

0.3 0 0.3 Miles



Public



Study Plots



State



Private



Study Locations



Pasture Boundary



Ecological Sites



Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 25, 2003.

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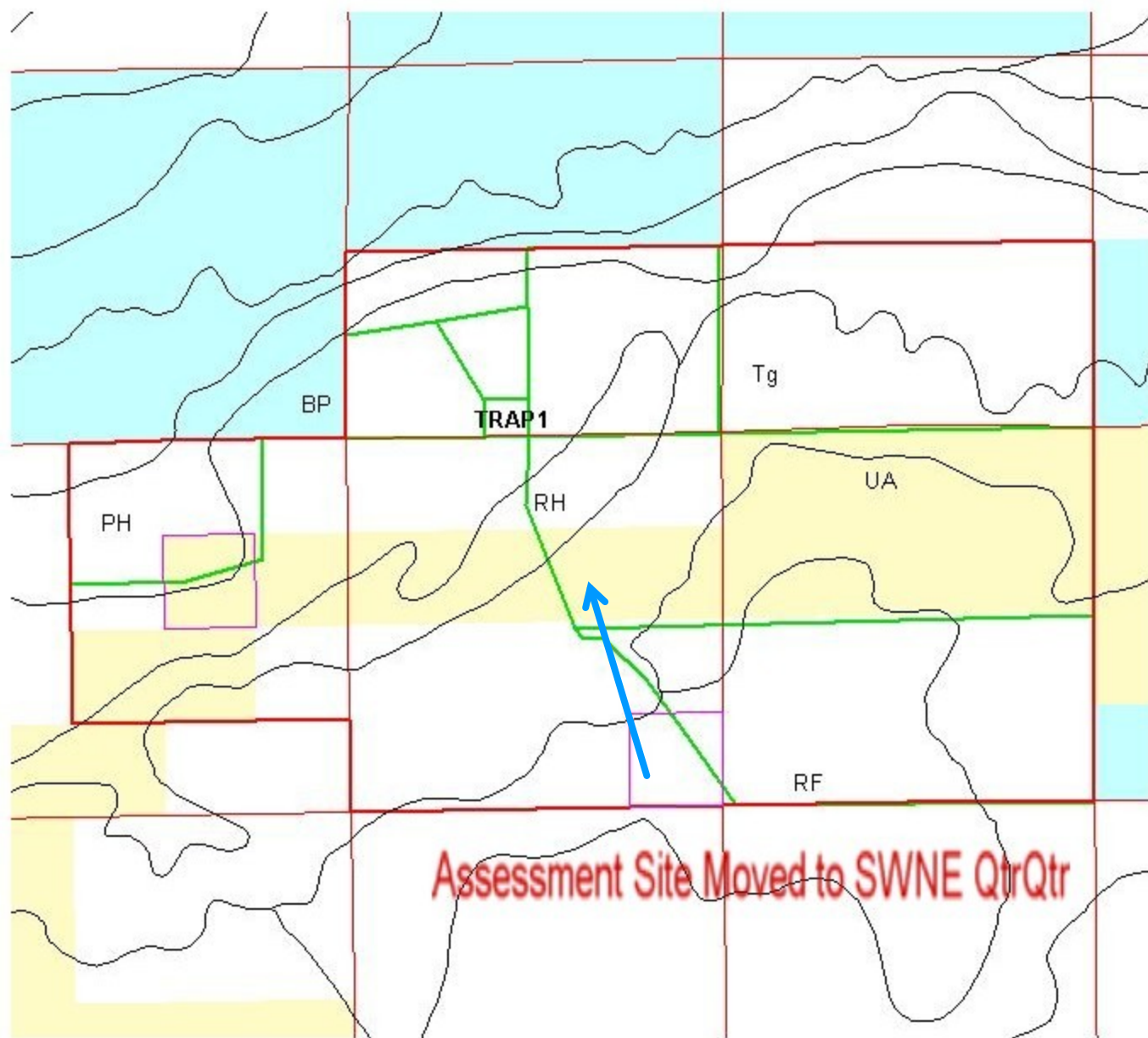


Rangeland Health Assessment Soil Mapping Units



Allotment 64077

T14S.R24E



T14S.R24E

0.3 0 0.3 Miles



Public



Study Plots



State



Private



Study Locations



Soil Mapping Units



Allotment Boundary

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